

APPARATUS AND METHOD FOR HAIRPINNING DATA  
PACKETS IN AN ETHERNET MAC CHIP

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## ABSTRACT OF THE DISCLOSURE

A router for interconnecting N interfacing peripheral devices.

The router comprises routing nodes coupled to one another via  
10 switching circuitry. A first routing nodes comprises: 1) a  
physical medium device (PMD) module for transmitting data packets  
to and receiving data packets from the N interfacing peripheral  
devices; 2) an ingress processor for receiving incoming data  
packets from the PMD module; 3) an egress processor for  
15 transmitting data packets to the PMD module; and 4) a medium access  
control (MAC) processor for forwarding data packets from the  
ingress processor to the switching circuitry and forwarding data  
packets from the switching circuitry to the egress processor. The  
MAC processor determines whether a first data packet received from  
20 the ingress processor is directed to the egress processor and, if  
so, transfers the first data packet directly to the egress  
processor without forwarding the first data packet through the  
switching circuitry.